

Remarks

Assignee appreciates the Examiner's indication of allowance or allowability of claims 17-36, 39-43, and 49. Assignee has amended claim 17 to place it in independent form, using the base claims on which it depended as examined, without making any amendments to it of substantive character. In other words, the scope of claim 17 is completely unchanged, in assignee's view. Assignee respectfully requests the Examiner to confirm that he has rewritten the claim without altering its scope substantively and indicate that it is allowed as rewritten.

Claims Rejected on Wilshaw Reference

Claims 15-16 and 44 stand rejected under 35 USC §102(b) as anticipated by Wilshaw, U.S. Patent 6,030,704, and claim 47-48 (dependent on claim 44) stand rejected as obvious over Wilshaw with supporting references. Assignee respectfully requests reconsideration, because assignee believes that the Office Action misinterprets the disclosure of Wilshaw.

Wilshaw teaches essentially a silicate (e.g., clay) particle coated with a film of polymer material. To form the particles that will serve as the cores, Wilshaw teaches the possibility of forming a foamed ceramic made from a slurry of the silicate material selected and a gas (e.g., air), drying the foam, and crushing the foam to create the particles needed. See Wilshaw, column 1, line 62 to column 2, line 3; column 2, lines 21-27; column 3, lines 55-67; column 4, lines 4-27, 42-54. Wilshaw teaches, as pointed out by the Examiner, that a biocide can be added to the foamed ceramic during or after its manufacture. Column 4, lines 28-31, 38. Next, the cores thus created are coated, around the entire surface, with the polymer material. E.g., Wilshaw, column 5, lines 50-60; column 6, lines 41-48. Wilshaw makes a big deal about his coating covering pores and cavities in the surface, teaching that this causes an increase in the surface area of the polymer. Wilshaw, column 5, lines 50-51; column 6, lines 53-57; column 6, line 65 to column 7, line 19; column 7, lines 23-28.

Wilshaw teaches that the polymer material in question may have a polar part and a non-polar part. The clay part serves to bind the polar part, so that the polymer coating attaches firmly to the substrate, while the non-polar (positive) part is available to bind contaminants. See Wilshaw, column 6, lines 59-64; column 7, lines 19-29.

Apparently, the biocide's purpose is to kill organic material in the core material, before it is coated with polymer (perhaps because the organic material might cause detachment of the coating).

Whatever the purpose, however, it seems quite apparent that the polymer coating would over-coats the biocide material, preventing the biocide from being on the outside of the polymer. The ordinary observer would understand Wilshaw's teaching in that way from the parts of the reference cited above. At no point does Wilshaw teach or suggest using biocide to assist in screening organic matter from the oily water being filtered.

Turning to claim 15, as previously rejected, the claim specified that the water passes through fragments that sorb the contaminants and have antimicrobial compounds on their surfaces. The same feature appears in claim 44. With all due respect, Wilshaw does not disclose this feature. At best, the antimicrobial compounds, in Wilshaw, are not on the surface of the coated polymer fragments, instead they are buried between the core and the polymer overcoat. Indeed, Wilshaw even fails to specify that the antimicrobial compound remains present after the coating process, and it is not at all clear that it does.

Despite the clear distinction over Wilshaw, assignee has voluntarily amended claims 15 and 44 to specify that the antimicrobial compound is "grafted to," rather than just "on" the surface. This amendment is not intended to provide a further distinction over Wilshaw but rather to clarify that assignee views the invention of those claims as involving antimicrobial compounds bonded to the contaminant-sorbing fragments permanently, with covalent bonds. Assignee respectfully submits that claims 15-16 and 44 now stand in condition for allowance.

In the middle of page 2 through the middle of page 3 of the Office Action, the Examiner cites several supporting references allegedly suggesting an elongated generally cylindrical structure of the sort specified in then-pending claim 44, the filtration cartridge of claim 47, and the screen of claim 48. Because the Office seems to consider the shape of the filter insignificant, assignee introduces a broadening amendment removing the "generally cylindrical" limitation from claim 44 to increase the scope of protection, and adds the same limitation back into dependent claim 47. Accordingly, it is considered unnecessary to rebut that part of the Office Action.

Assignee also amends claims 45 and 47 to replace the word "container" with the phrase "elongated structure," because the word "container" was missing explicitly from independent claim 44 (but was clearly apparent from the language of the claim). The goal of this voluntary amendment is to avoid any possible charge of lack of antecedent basis. That amendment does not alter the scope of the claims in any way.

Given the above comments, as a result of the amendments, claims 44-50 have been broadened in one respect and clarified, except claim 47, which has the same scope.

Claims 15 and 44, and claims 16 and 47, 48 dependent thereon, should be allowed.

Claims Rejected under Section 112(1)

The Office Action further rejects claims 37-38, 45-46 under 35 USC §112(1) (written description) because the claims allegedly claim subject matter not described in the specification so as to convey to the ordinarily skilled artisan that the inventor had possession of the claimed invention. Each of those claims contain limitations directed to the elongated structure being a pipe.

Written description of a pipe is found in paragraph [0060] on page 16 of the specification as filed, which states: "[T]he inventor contemplates that alterations and permutations of the preferred embodiments and methods will become apparent to those skilled in the art upon a reading of the specification and a study of the drawings.... In other variations, polymer granules or fragments according to various aspects of the invention can be employed in pipes, industrial filtration systems, filtration cartridges, and any other types of systems where the dual-action decontamination performed by such granules and fragments is desired." [Emphasis added]

The Office Action (p. 3) says, "Applicant describes a filter cartridge but not a pipe in figure 5." That is correct as to Figure 5. However, paragraph [0060] quoted above clearly shows (to the ordinarily skilled artisan) that the "inventor contemplate[d]" that the fragments equally could be employed in a "pipe" instead of a "filtration cartridge." Accordingly, the absence of a pipe from Figure 5 is not determinative of the issue.

Claim Rejected under Section 112(2),(4)

The Office Action has rejected claim 50 under these subsections of the statute, arising from a typographic error in the claim, which is here corrected.

Procedural Matters

In the Second Supplemental Preliminary Amendment, filed November 16, 2004 (the Office Action Summary incorrectly states the date of that paper as December 23, 2004), the undersigned accidentally identified claim 43 as "previously presented," when it was then "new." We apologize for the error and assume that it did not cause any undue confusion.

The Office Action was mailed on the same date as assignee's submission by facsimile of a supplemental Information Disclosure Statement, citing the Insley patent, which was identified in a related PCT application. Assignee understands that the same Examiner assigned to this case is handling the PCT matter, but nevertheless respectfully requests that the Examiner initial and return form PTO-1449 filed August 23, 2005, so that Insley is cited on the face of the patent issuing from this application.

Assignee also advises the Examiner of the other copending application, Serial No. 10/769,055, also being examined by the same Examiner, and cites in an accompanying additional form PTO-1449 one reference cited in that case not cited here.

Assignee respectfully requests that the Examiner pass this application to allowance at the earliest possible moment.

Respectfully submitted,

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Page 10

PAGE 10/10 * RCVD AT 11/22/2005 7:51:06 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2738300 * CSID:480 948 3387 * DURATION (mm:ss):03:22 P.10